

DOCUMENT MANAGEMENT SYSTEM

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STEPS**PROCEDURES****DIW**

The Final Treatment Plant flows originate from the Lake Pump House Backwash, Pre-Treat oily waste interceptor, 5 Stands, Tin Temper Mill, the Energy Facility and the Sludge Dewatering Plant. These flows enter the Final Treatment Plant at the Pre-Treat channel and are pumped to the equalization basins by the lift pumps.

Here they are mixed with flows from the D.I.W. The D.I.W. receives flows from the Cleaning Line, Continuous Annealing Line, Tin Line, (TFS) Chrome Line, 72" and #3 Galvanize Lines, Combo Line, and the Pickle Line.

Flow Equalization

The D.I.W. empties into the equalization basins at the south end of the Final Treatment Plant. These equalization basins are used to regulate the flow to the mix tank and for the skimming of light and heavy oils.

Mix Tank

When the flow reaches the mix tank, the pH is adjusted, if necessary by the addition of acid or lime slurry. The ideal pH should be kept between 7 to 8. A polymer (coagulant aid) is also added here in the mix tank. Also compressed air is added to oxidize metals so they can mix with lime to form sludge.

Flocculation

From the mix tank, flow enters the flocculation section where flow and coagulant aid are well mixed and the coagulation and sedimentation process is started. In addition, [REDACTED] are added to aid in metals removal.

Sedimentation

The flow then enters the sedimentation basins where drags and cross collectors pull the sludge into collection hoppers and is pumped to the Sludge Dewatering Plant for processing. A portion of this flow is returned to the mix tank to help stabilize and aid treatment. The return sludge flow contains large particles of floc that help the coagulation and sedimentation process. The return sludge also helps keep the mix tank pH in the proper range.

Flights collect the light floatable oils at the north end of the sedimentation basins at the skimmer tube. These light oils should be skimmed off and returned to the oil separation tank via the sump. Recovered oil is sent off plant site via tank truck.

Outfall 104

The water is then discharged over the weirs where a solution is used to dissipate "foam," the effluent continues through the Parshall flume into the sample station at Internal Outfall 104.

Outfall 004

The effluent water is then mixed with non-contact cooling water from the mill and the effluent from the chrome plant (Internal Outfall 204). The combined flow is then discharged as effluent into the receiving stream (Burns Waterway) as Outfall 004.